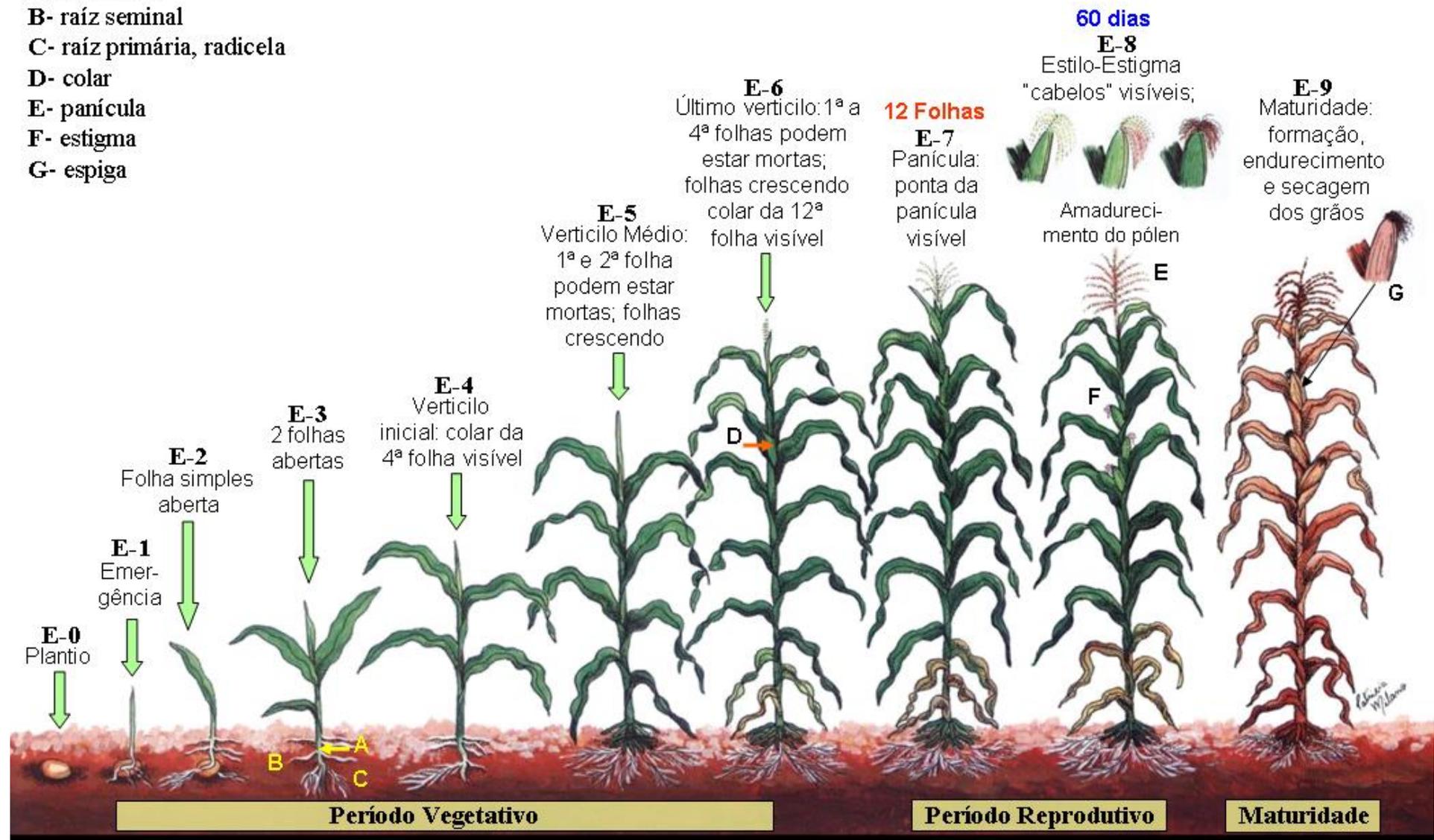




Pragas do Milho Sorgo



- A- raiz nodal
- B- raiz seminal
- C- raiz primária, radicela
- D- colar
- E- panícula
- F- estigma
- G- espiga



Estágios (E) de desenvolvimento do milho

Pragas do Milho/Sorgo

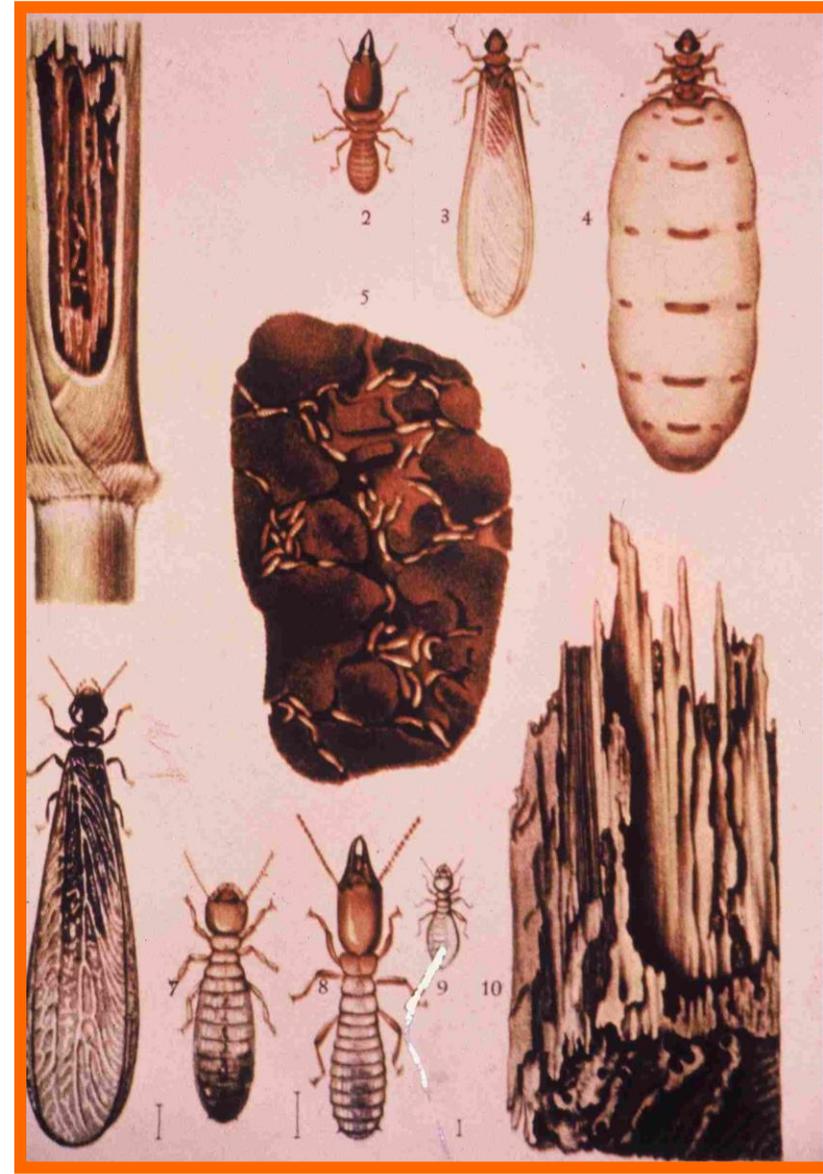
- Raízes
- Colmo
- Folhas
- Espigas/Panícula

A photograph of a cornfield with tall green plants and tassels against a clear blue sky. A dark green oval is overlaid in the center, containing the text 'Pragas das Raízes' in yellow.

Pragas das Raízes

Cupim subterrâneo - *Procornitermes striatus*

Castas de cupins →



Larva-alfinete - *Diabrotica speciosa*



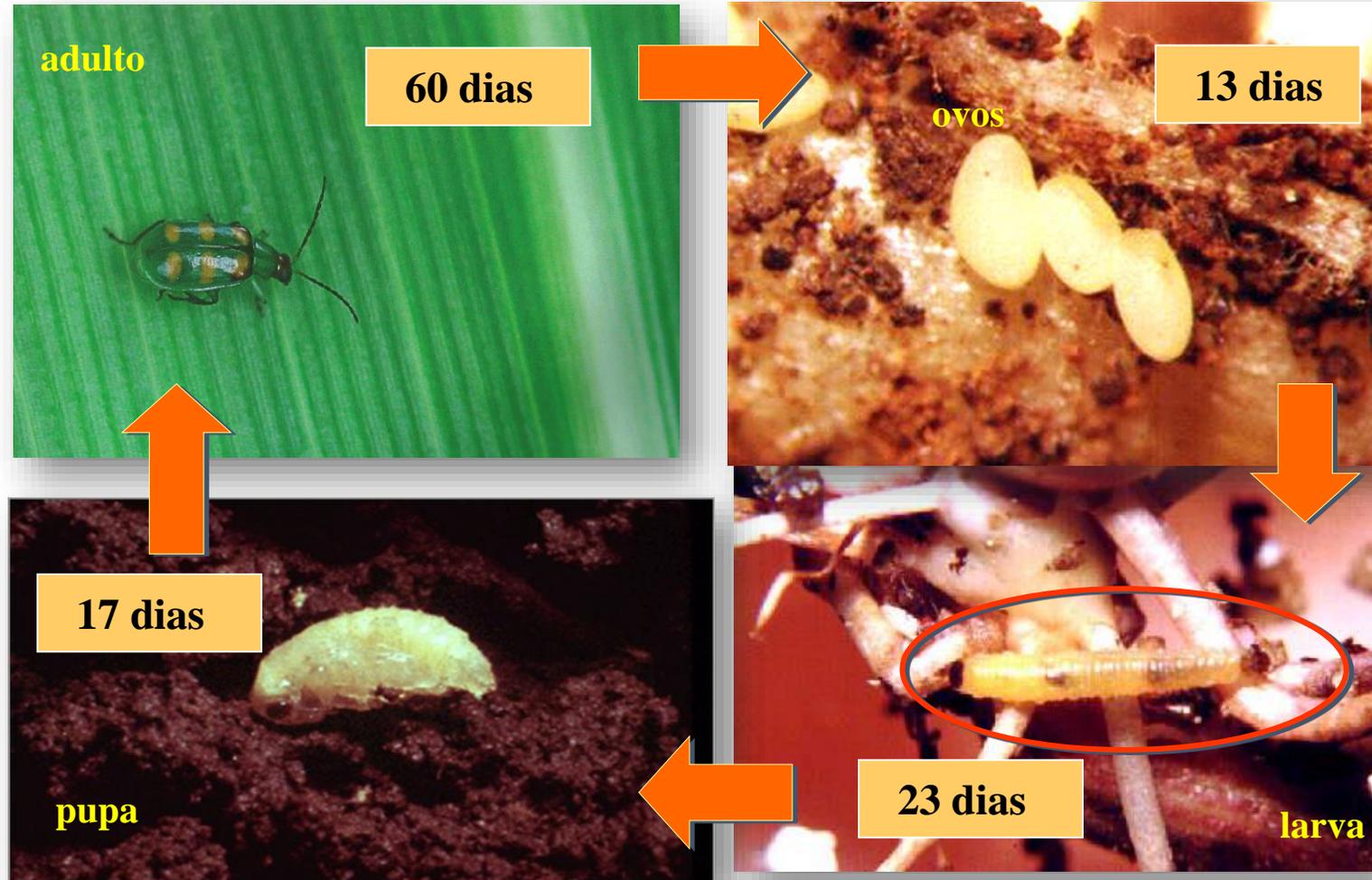
Larva



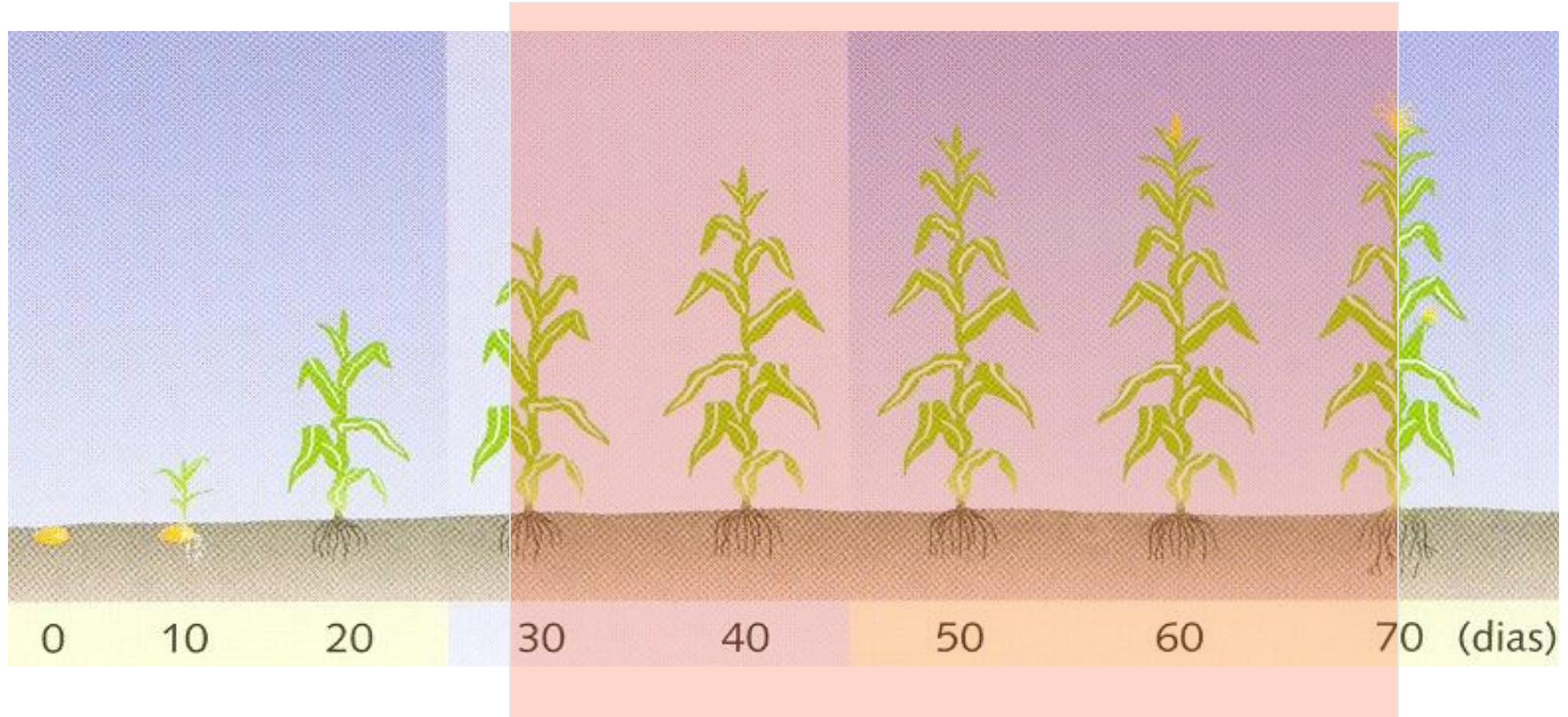
Adulto

* Essa praga vem aumentando em várias regiões produtoras de milho do Brasil e também ocorrem em sorgo.

Larva-alfinete - *Diabrotica speciosa*



Larva-alfinete - *Diabrotica speciosa*



Período crítico: dos 30 aos 70 dias

Larva-alfinete - *Diabrotica speciosa*



Danos no sistema radicular

Larva-alfinete - *Diabrotica speciosa*

Larva-alfinete - Dano



Sintoma de ataque
“Pescoço-de-ganso”

Corós - Espécies



Adultos

*Diloboderus
abderus*

*Phyllophaga
triticophaga*

*Cyclocephala
flavipenis*



Salvadori (2000)

Larvas escarabeiformes



Corós- Danos



Percevejo-castanho

Scaptocoris castanea
Scaptocoris carvalhoi



Adulto



Ninfa



Ataque às raízes do milho e sorgo

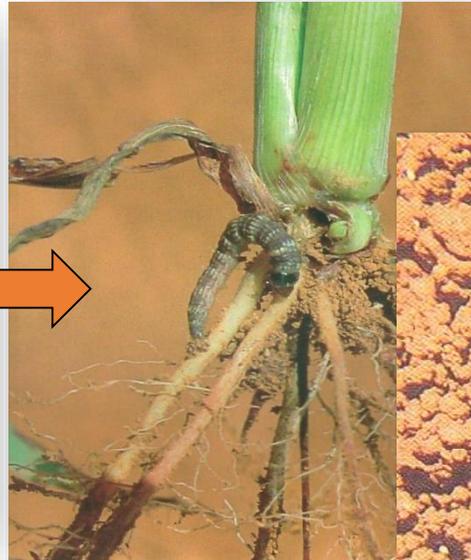


Pragas do Colmo

Elasmo - *Elasmopalpus lignosellus*

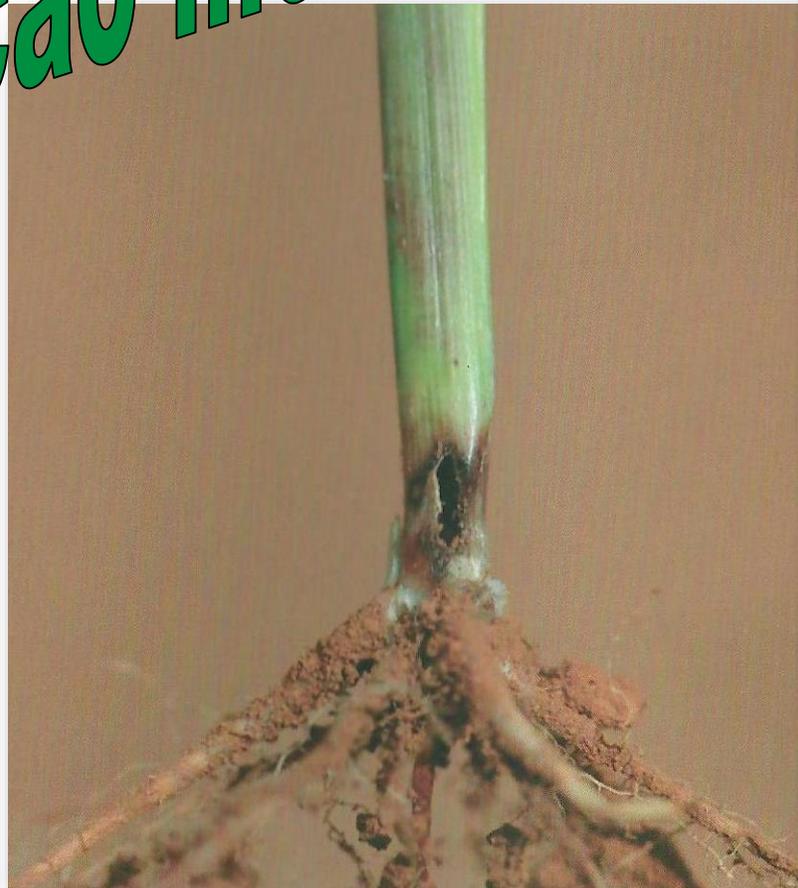


Elasmo - *Elasmopalpus lignosellus*



Elasmo - Danos

Coração morto



Lagarta-rosca - *Agrotis ipsilon*



Lagarta-rosca - *Agrotis ipsilon*





Percevejo-barriga-verde - *Dichelops* spp.



Dichelops furcatus



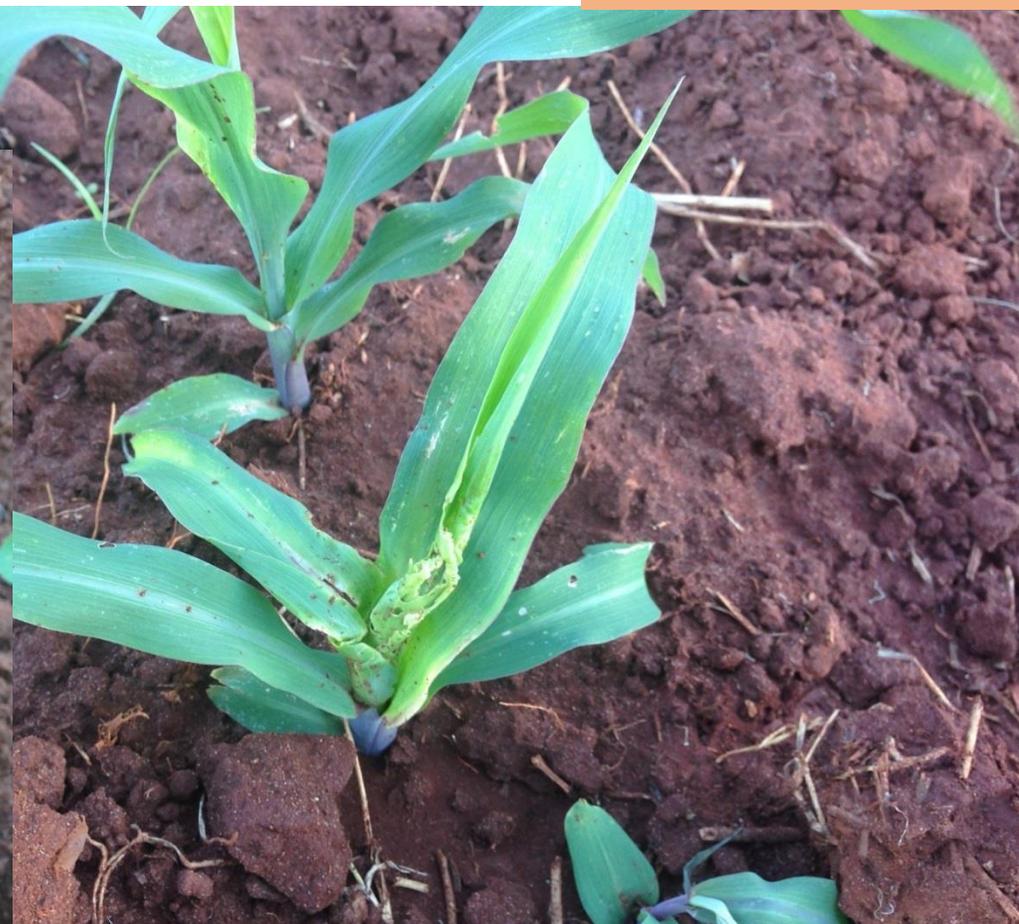
Dichelops melacanthus

Percevejo-barriga-verde - Danos



Estágio inicial: 1-4 folhas

Encharutamento



Percevejo-barriga-verde - Danos



Perdas de até 25%

Perfilhamento

Broca-da-cana - *Diatraea saccharalis*



Broca-da-cana - *Diatraea saccharalis*



**ORIFÍCIO DE
ENTRADA
NO COLMO**



Broca-da-cana - *Diatraea saccharalis*



COLMO BROQUEADO

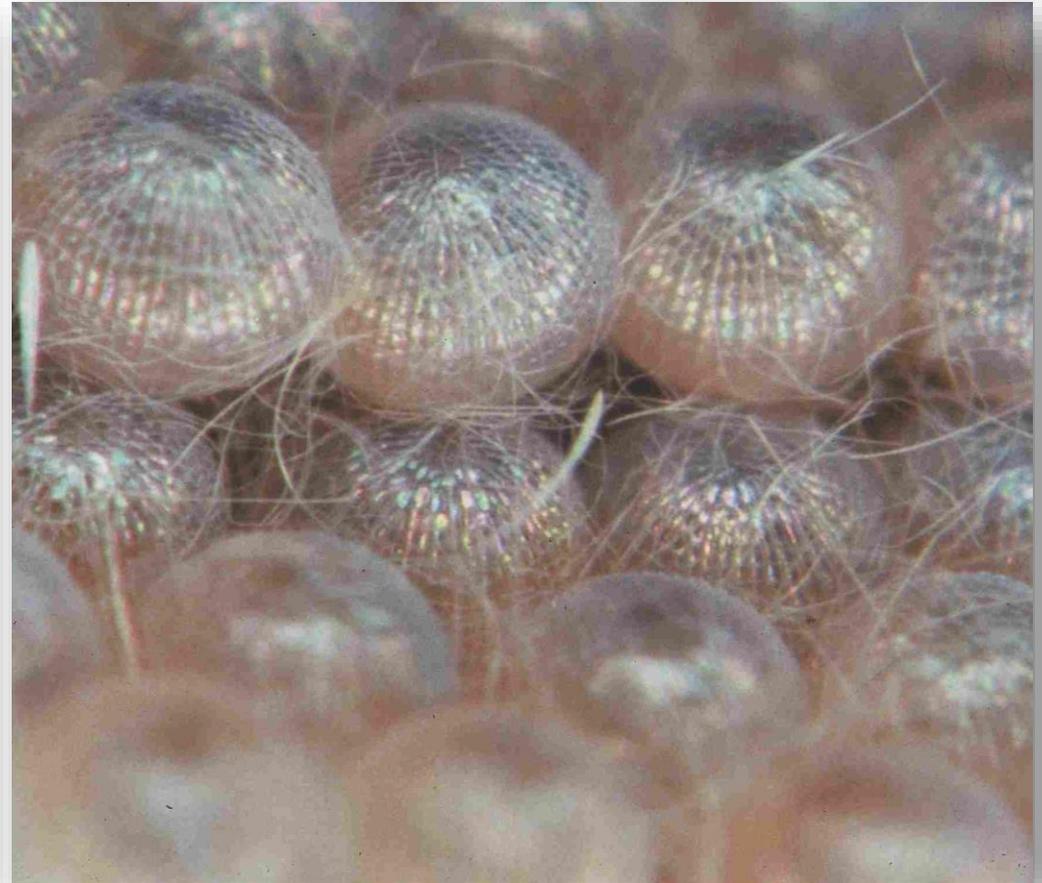
A photograph of a cornfield with tall green plants and tassels against a clear blue sky. A dark green oval is overlaid in the center, containing the text 'Pragas das Folhas' in yellow.

Pragas das Folhas

Lagarta-do-cartucho - *Spodoptera frugiperda*



Lagarta-do-cartucho - *Spodoptera frugiperda*



Lagarta-do-cartucho - *Spodoptera frugiperda*



Folhas raspadas



Lagarta-do-cartucho - *Spodoptera frugiperda*



Lagarta-do-cartucho - *Spodoptera frugiperda*



Danos

Lagarta-do-cartucho - *Spodoptera frugiperda*

Ciclo Biológico (ovo-adulto) *Spodoptera frugiperda*

Temp. (°C)

Duração (dias)

20

63,6

25

35,0

30

29,0

35

22,9

Lagarta-do-cartucho - *Spodoptera frugiperda*

NOVAS TÉCNICAS

“PIVOT” CENTRAL

2º. SAFRA (SAFRINHA)

PLANTIO DIRETO

Lagarta-do-cartucho - *Spodoptera frugiperda*

**Alteração de
seu comportamento**



Lagarta-do-cartucho - *Spodoptera frugiperda*

Condições normais:

Ataque às folhas e ao cartucho

Alterações fitotécnicas:

Ataque às espigas e corte de plantas

Lagarta-do-cartucho - *Spodoptera frugiperda*

Danos nas espigas



Corte de plantas na base



Lagarta-do-cartucho - *Spodoptera frugiperda*

**PLANTA MAIS SENSÍVEL
QUANDO A INFESTAÇÃO
INICIA-SE ENTRE 40 E 60 DIAS**

Lagarta-do-cartucho - *Inimigos naturais*

***Trichogramma
atopovirilia***



Lagarta-do-cartucho - *Inimigos naturais*

- Seletividade



Adulto de tesourinha predando ovos

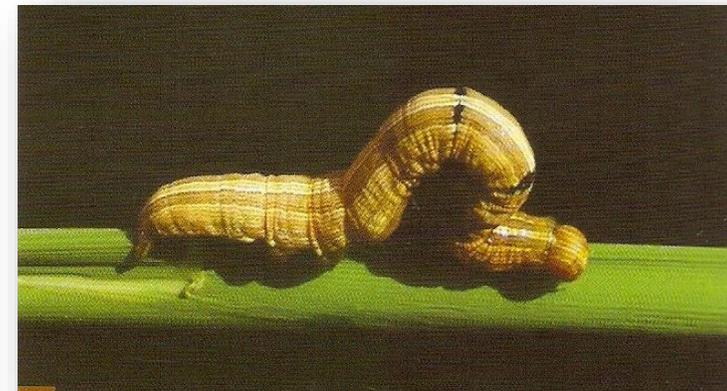
Outras lagartas desfolhadoras

Helicoverpa armigera



Curuquerê-dos-capinzais

Mocis latipes



Cigarrinha-do-milho - *Dalbulus maidis*



Cigarrinha-do-milho - *Dalbulus maidis*

Transmissão de espiroplasma e fitoplasma
Enfezamento do milho
("Corn Stunt")



Danos

Enfezamento do milho

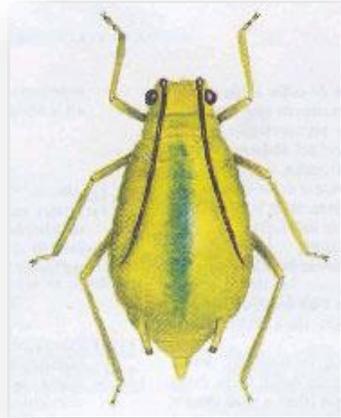
Pulgão-do-milho - *Rhopalosiphum maidis*



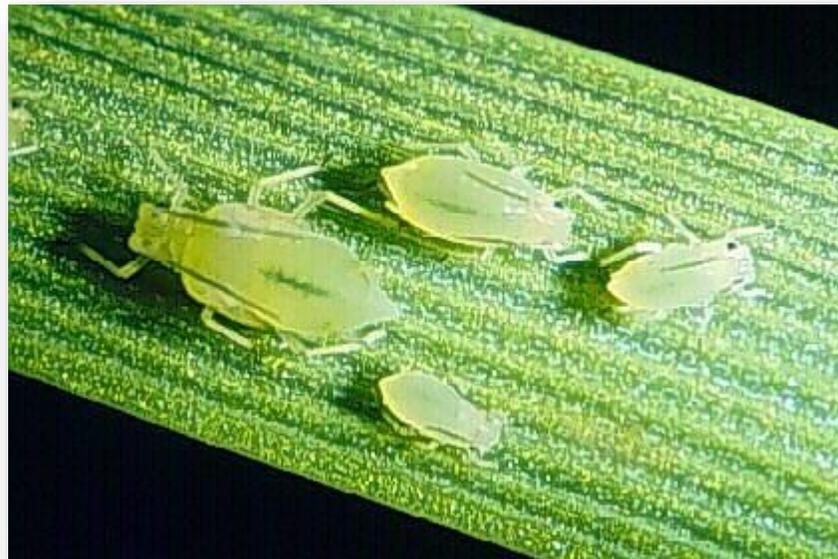
Pulgão-do-milho - *Rhopalosiphum maidis*



Sorgo- Pulgão-verde - *Schizaphis graminum*



Pulgão verde
Schizaphis graminum

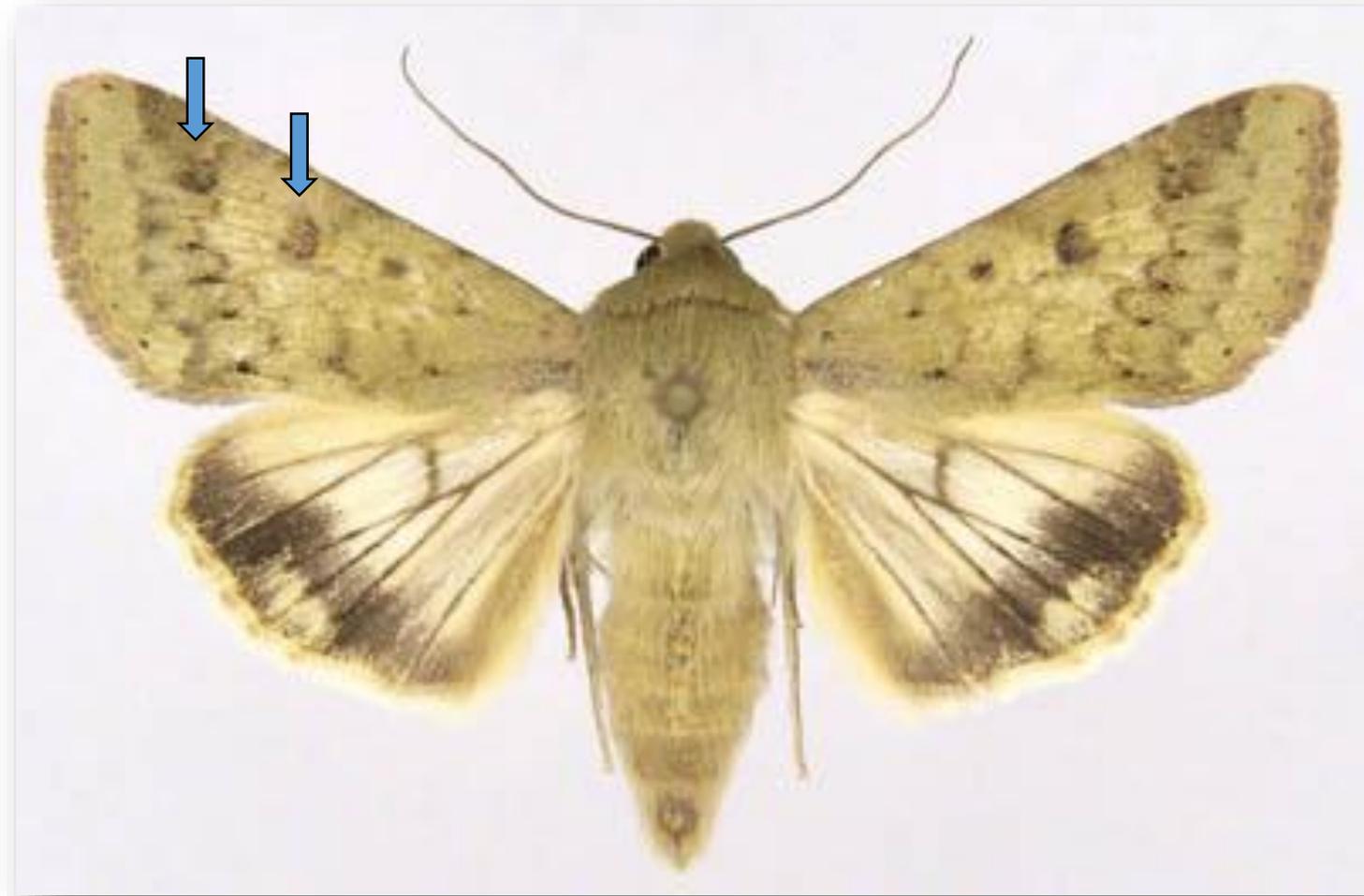


Sintomas:
Manchas bronzeadas a necrosadas

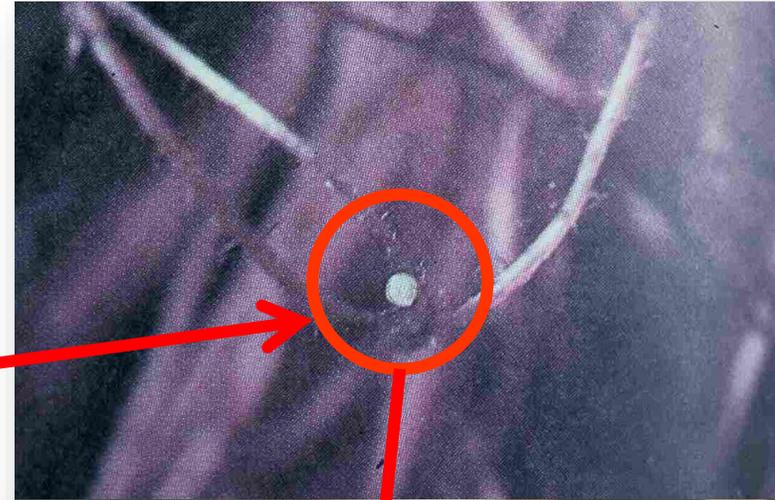
A photograph of a cornfield with tall green plants and tassels against a clear blue sky. A dark green oval is overlaid in the center, containing the text 'Pragas das Espigas' in yellow.

Pragas das Espigas

Lagarta-da-espiga - *Helicoverpa zea*



Lagarta-da-espiga - *Helicoverpa zea*



Espiga

Ovo

Lagarta-da-espiga - *Helicoverpa zea*

Danos



Lagarta-da-espiga - *Helicoverpa zea*

Inimigo natural



Trichogramma



Ovos parasitados



Mosca-da-espiga – *Euxesta* sp.



Adulto



Pupa

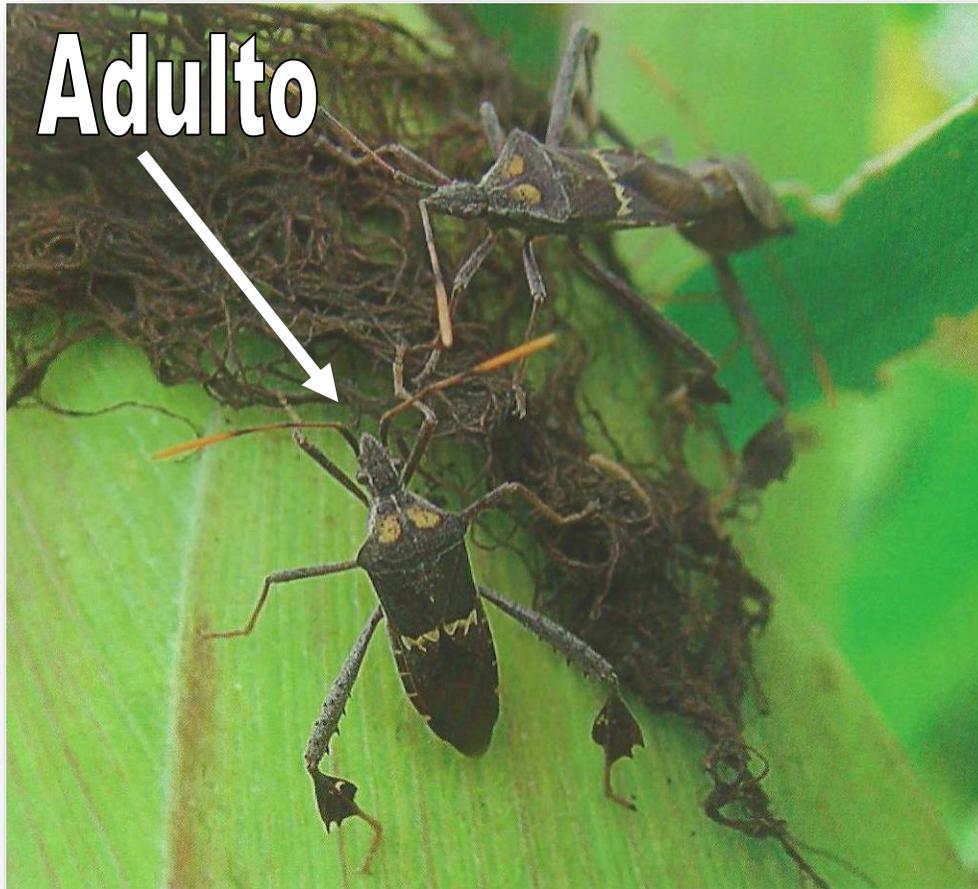


Larva

Percevejo-do-milho - *Leptoglossus zonatus*



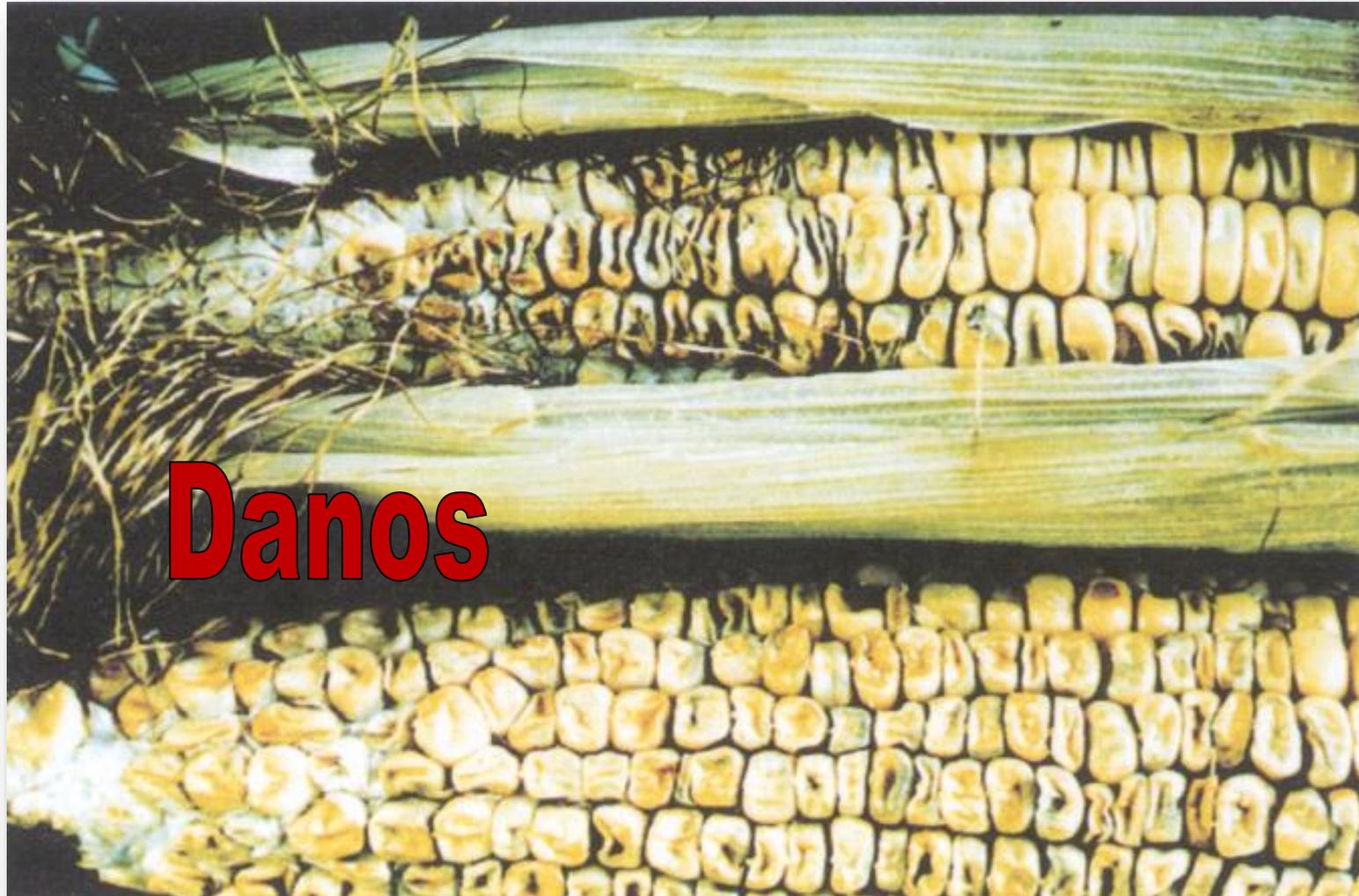
Percevejo-do-milho - *Leptoglossus zonatus*



Percevejo-do-milho - *Leptoglossus zonatus*



Percevejo-do-milho - *Leptoglossus zonatus*

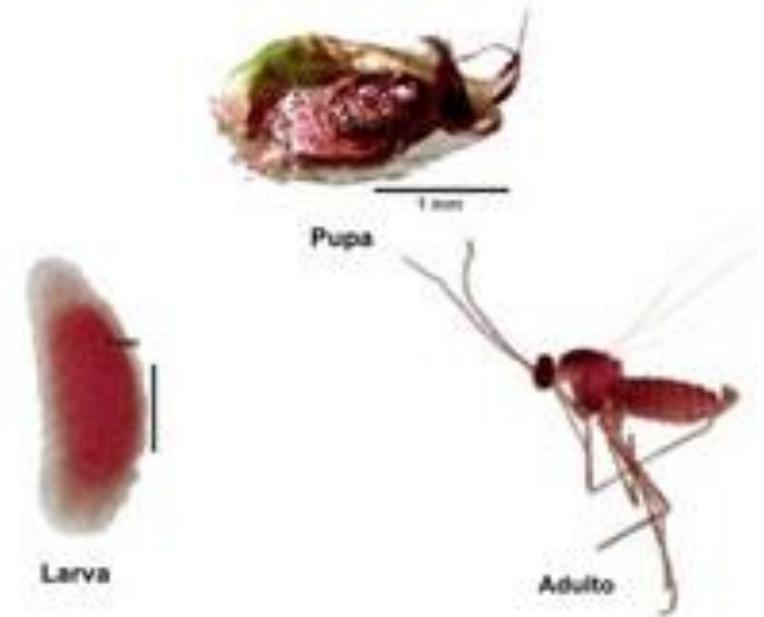


Danos



Mosca-do-sorgo – *Stenodiplosis sorghicola*

Diptera: Cecidomyiidae



Mosca-do-sorgo – *Stenodiplosis sorghicola*

Sintomas



Espiguetas chochas



A close-up photograph of a woven basket filled with yellow and white grains. Several small, dark insects are visible on the grains, indicating a pest infestation. The basket's texture is visible in the background.

Pragas de grãos Armazenados

Características das pragas de grãos armazenados:

A) Polípagas

B) Potencial biótico elevado

C) Infestação cruzada

Prejuízos

Perdas quantitativas

Perdas qualitativas

Classificação das pragas de grãos

1. Primárias

2. Secundárias

3. Associadas

Ordens de maior importância



Coleoptera

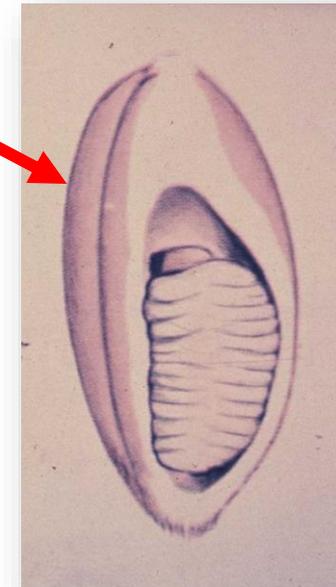
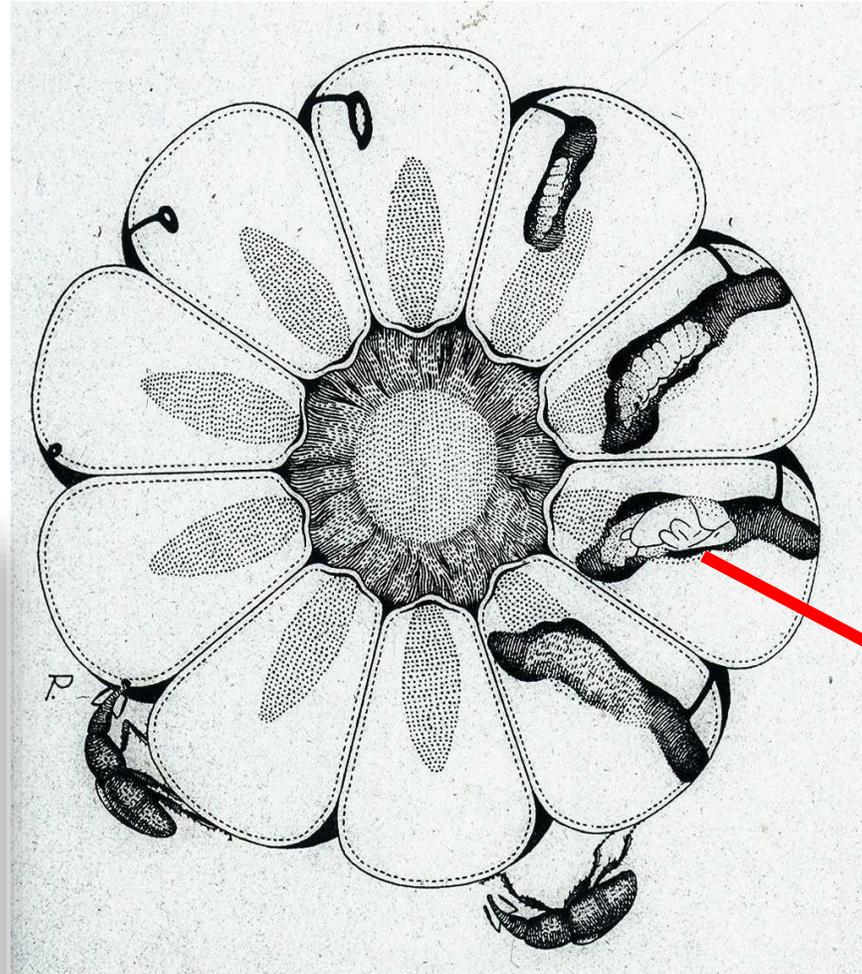


Lepidoptera

Besouros

Gorgulhos

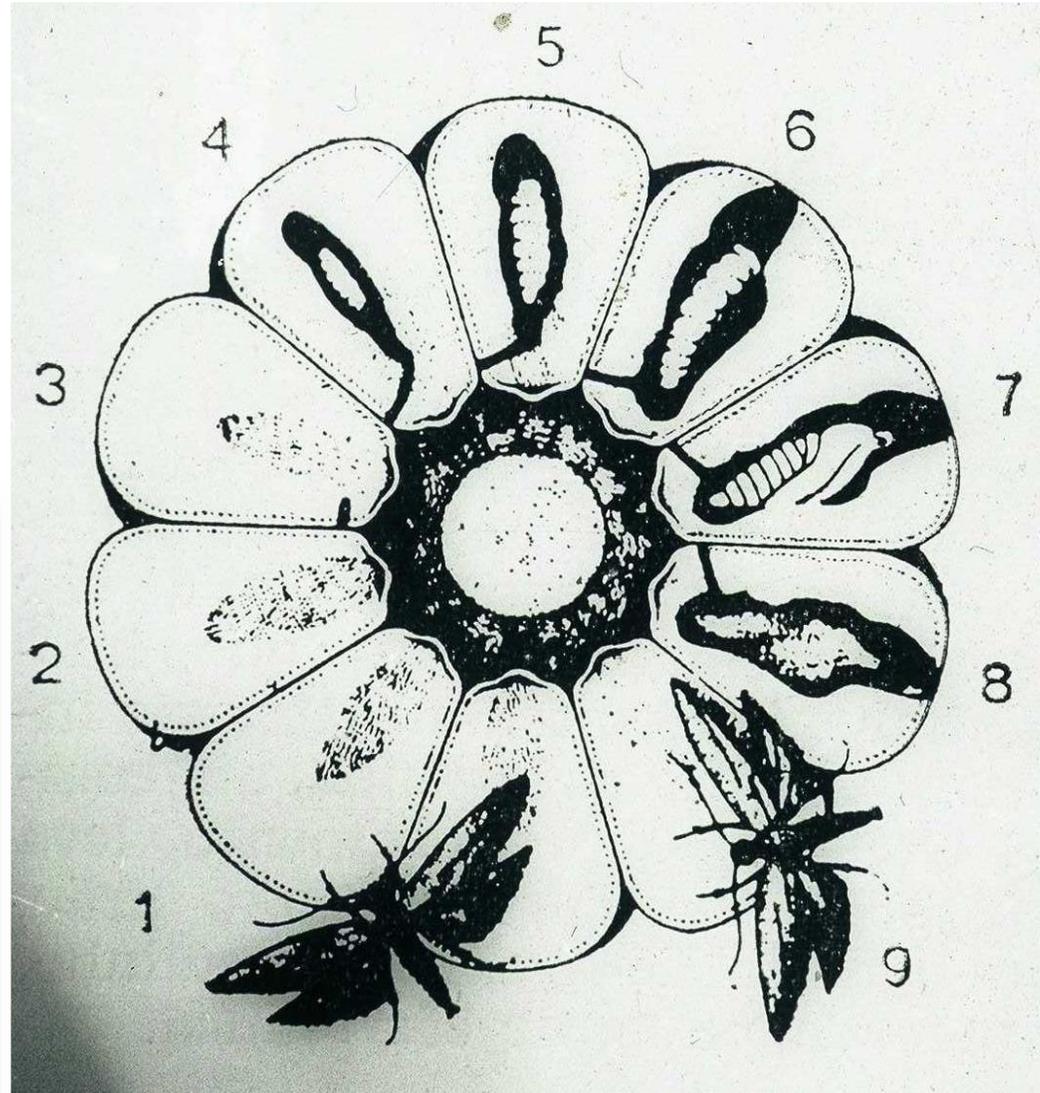
Carunchos



Ciclo biológico

Lepidoptera

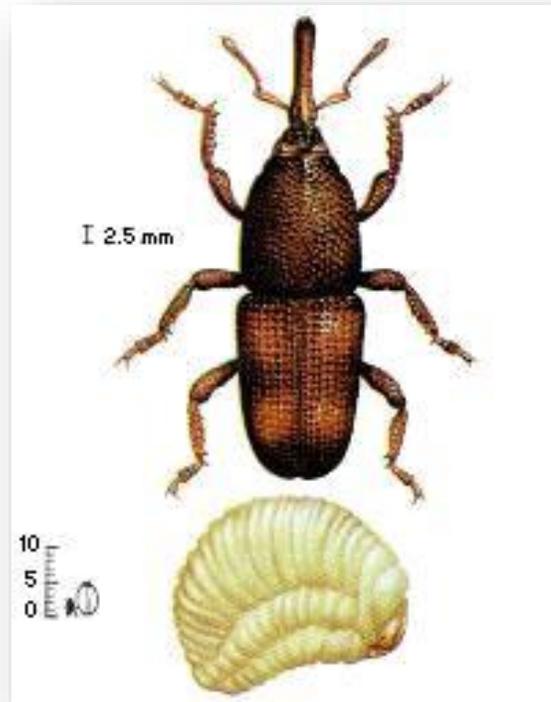
Traças



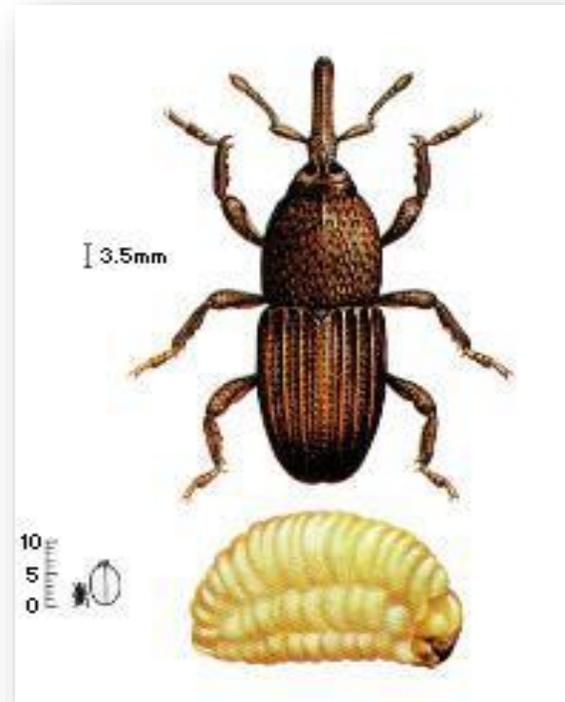
Ciclo biológico

Besouros

Gorgulho-do-milho

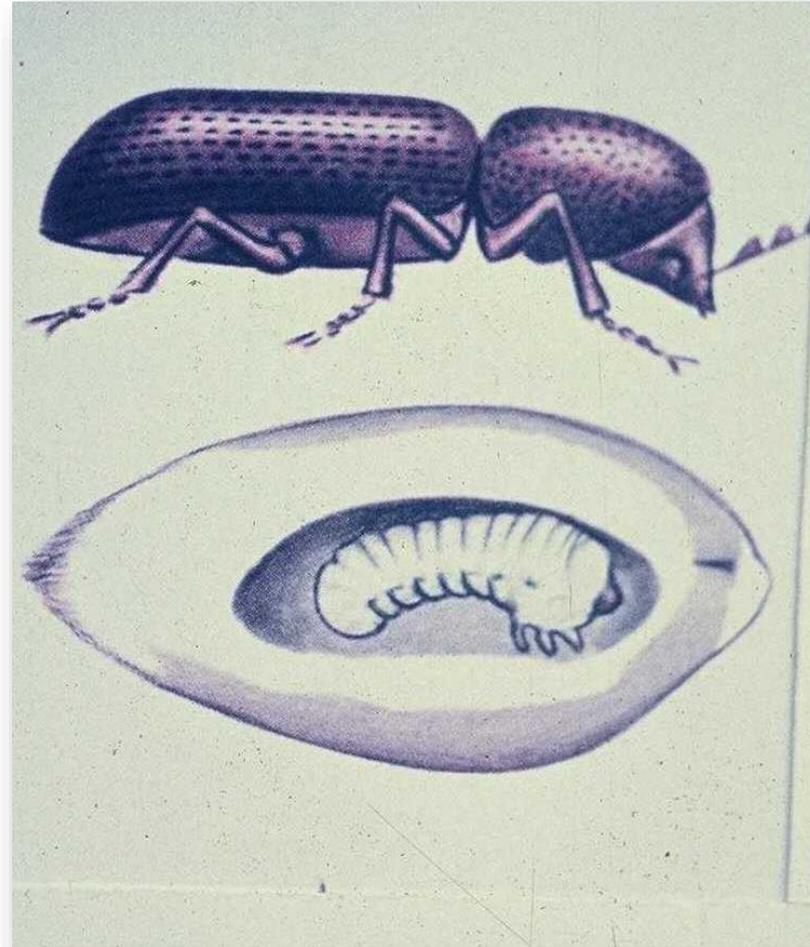
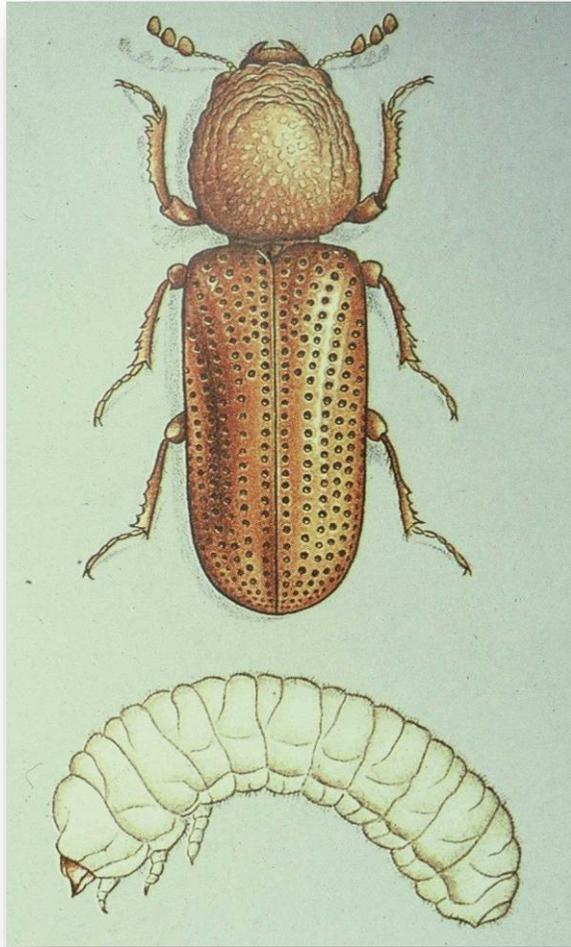


Sitophilus zeamais
Sitophilus oryzae



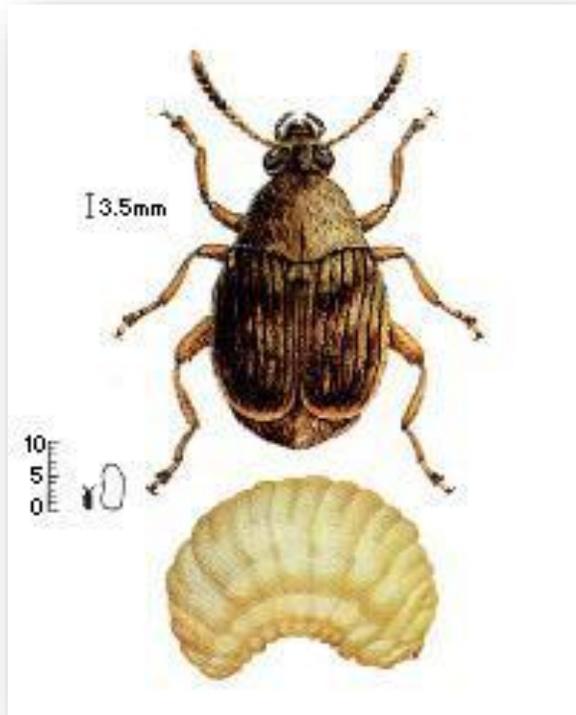
Sitophilus granarius

Besouros



Rhyzopertha dominica

Besouros



Acanthoscelides obtectus

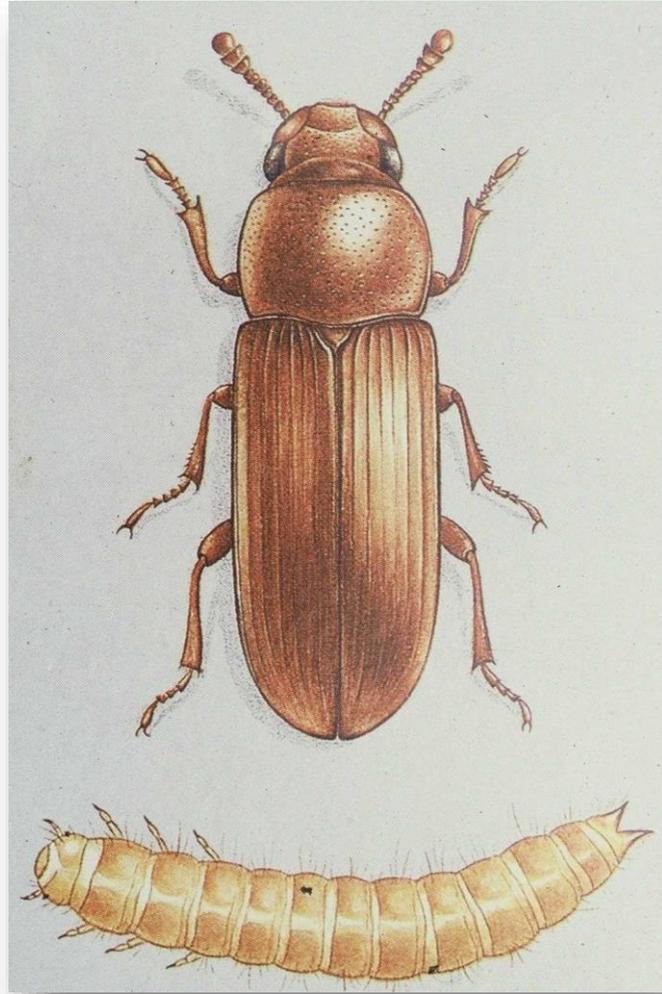


Callosobruchus maculatus



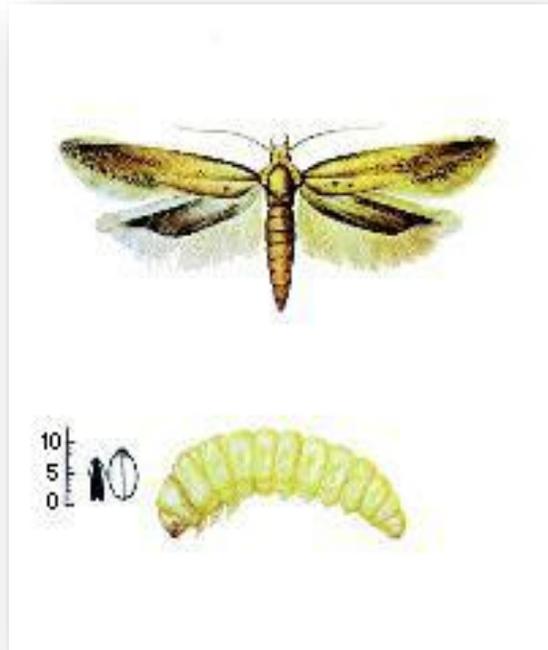
Zabrotes subfasciatus

Besouros

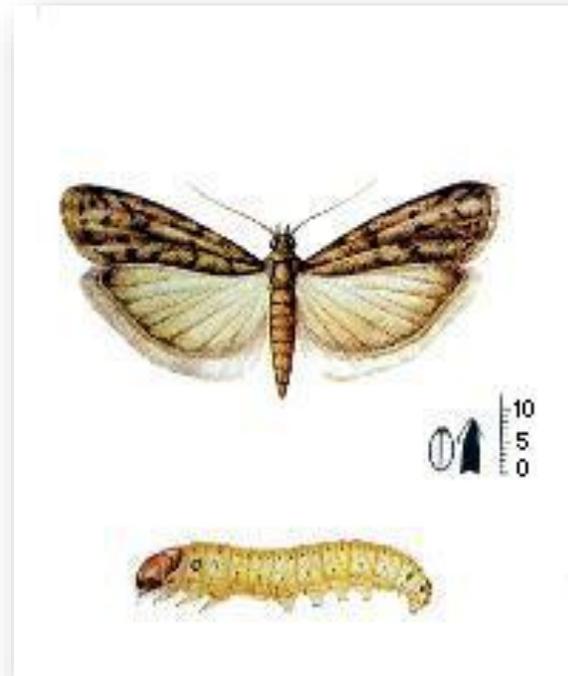


Tribolium castaneum* *Araecerus fasciculatus

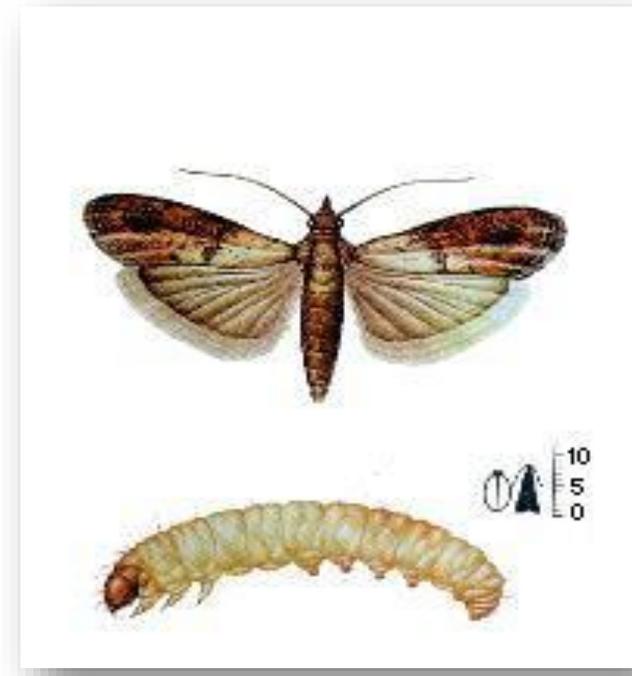
Lepidoptera - traças



Gelechiidae
Sitotroga cerealella

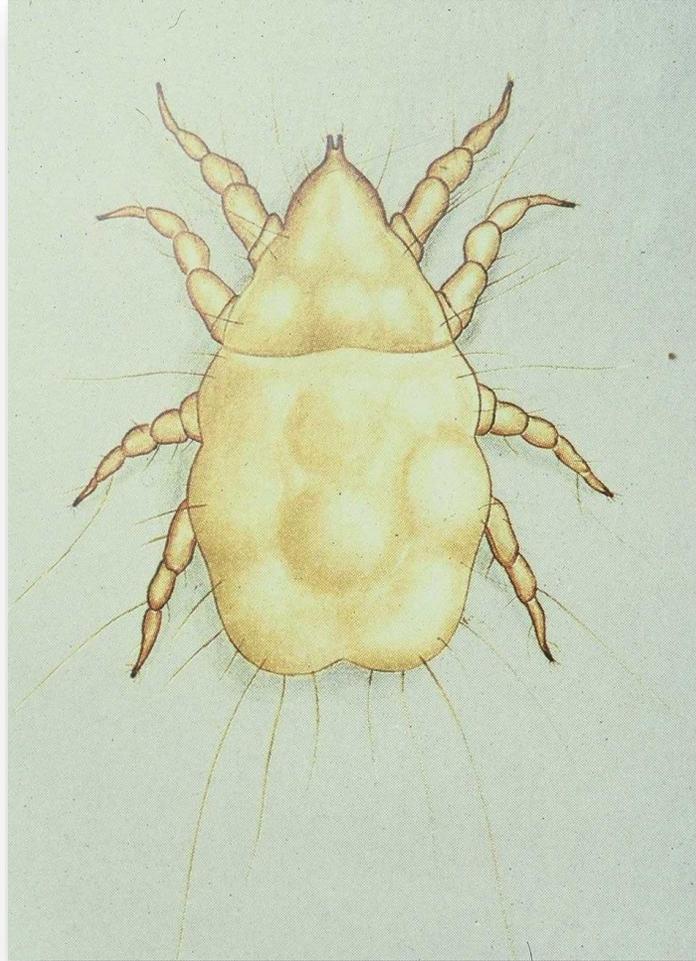


Pyralidae
Anagasta kuehniella



Pyralidae
Plodia interpunctella

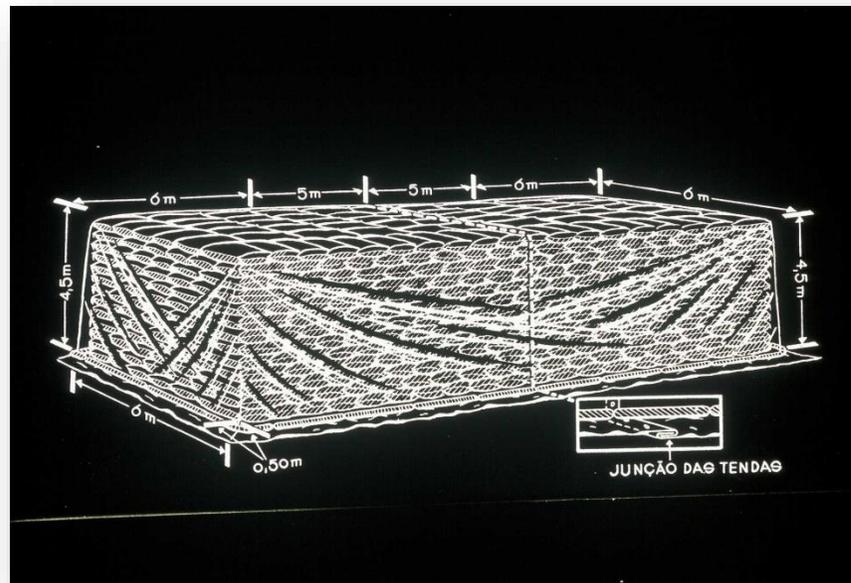
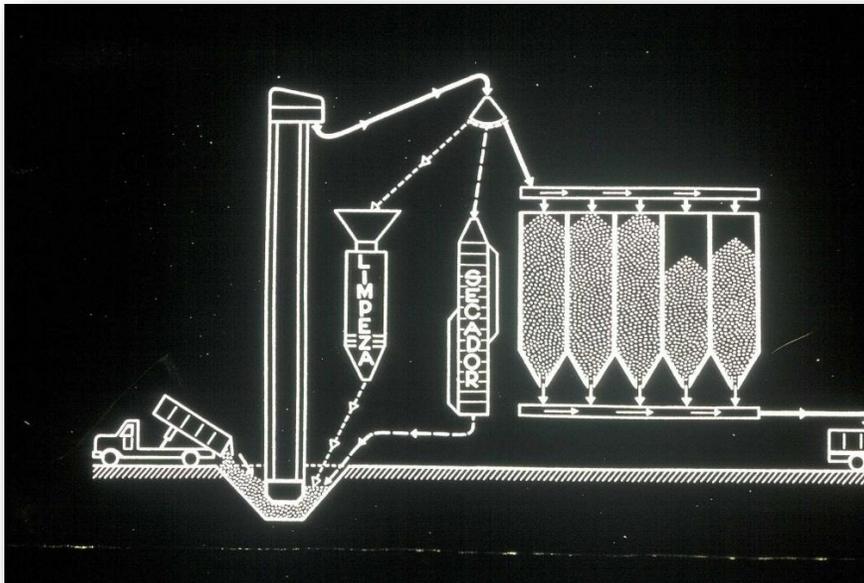
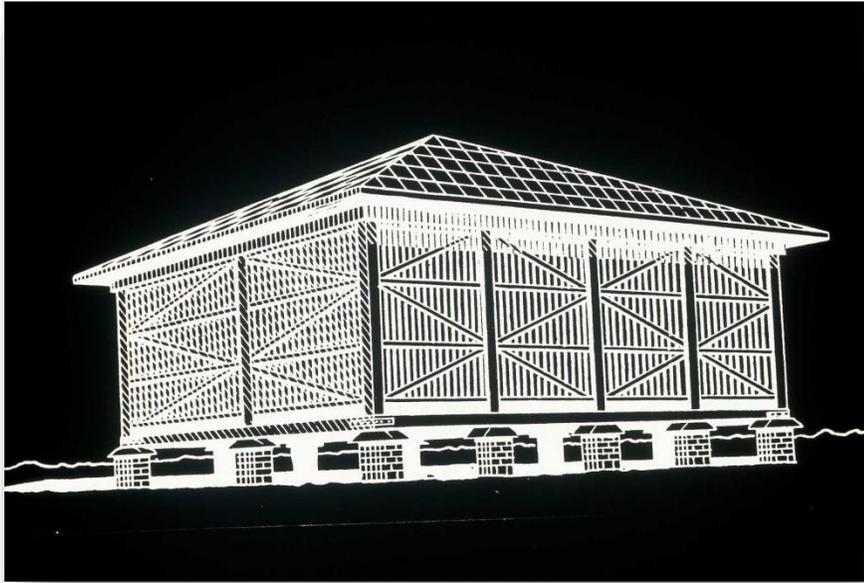
Ácaros



Acarus siro

A close-up photograph of yellow and white corn kernels. Several dark, elongated weevils are visible, some crawling on the kernels and others partially buried in them. The background is a solid teal color.

Depósito de Milho







**Pode ser utilizado
como controle**

Temperatura

Umidade relativa (UR)

Temperatura ideal p/ insetos: 23-35°C

Umidade ideal do grão: 12-15%

Medidas de Controle para as pragas de grãos

(3 medidas)

1º. Desinfecção das instalações

2º. Expurgo

3º. Aplicação externa



Armazenamento em espigas

**Expurgo
com
fosfina**



Embrapa Milho e Sorgo